An Essay
on
Fecundation

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The action of the female in the reproduction of the species, is one of great interest to the inquiring mind. And with much satisfaction may we peruse the researches of late authors. When comparing them with older ones who create in times when but little was known of the mysterious working of nature in the matter of the whole human race — viz the womb. Still, inquiry, research, and investigation, will yet throw much light upon the subject. Darkness still hangs

over it. As the subject is lengthy we will consider it only in part.

At the period of puberty – the period at which the female is capable of becoming impregnated – there is every twenty eight days a discharge through the external organs of generation, denominated the Menstrual flow. This discharge as it issues from the uterus is much or entirely like blood, but in its passage through the vagina, it becomes mixed with the secretions from its walls, which prevents it from coagulating. And here we find something which is found only

in the human female; this menstrual discharge is peculiar to her, and her only; and here also we find a marked difference, more so than any one other, between male and female connected with the menstrual flow, is the growth, development, and removal, from the ovary of an ovum. But before proceeding farther, it may be necessary to consider the anatomy of some of the organs of generation in the female.

To say nothing of the external organs of generation we find situated within the pelvis, a pear shaped body, with the larger part resting

upwards and forwards, and in the unimpregnated state, is ovoid posterior and flattened anterior, this body is called the uterus. Leading to this from the external parts, a passage, which is the vagina. The uterus is held in its place by the broad and round ligaments. From each side of the upper part of the uterus, are two tubes extending laterally of about four or five inches in length, ending in fimbriated extremities, these are the fallopian tubes. Just below the fallopian tubes, are situated the ovaries, being connected with the upper angles of the

uterus at each side, and at the other extremity by a short ligament to the fimbriated extremity of the fallopian tubes The ovary is an organ of great interest. Without it woman would be as man without testicles; she not being capable of becoming impregnated, he not being capable of impregnating. In fact, the ovaries are the female testicles The ovary is composed of a close spongy texture - the stroma - and of small vesicles, which are produced within a capsule the outside of which is in contact with the the stroma, these vesicles are termed graffian or ovarian

vesicles. Adherent to the lining of the vesicle is a layer of yellow granular matter, which forms an internal tunic to it, this layer is called the membrana granulosa. The membrane which surrounds the yolk, because of its thickness and transparency, is called zona pellucida. The vitellus, or giving it the common name, the yolk, is small in the ovum of the mamalia, its purpose being to sustain the germ in its earliest period of existence. In the center of the vitellus not mature, is the germinal vesicle, and this has a nucleus which is the germinal spot. This germinal

ofat is the greatest part of the ovum, although the smallest the greatest because it is the essential part.

There seems to be a Continual change taking place in the ovaries, or a Continual rupturing of ovisacs, and discharge of ova from the ovaries through the greater part of life. The ovum remains in the Center of the ovisac until it is nearly mature, so also does the germinal vesicle remain in the Center of the vitellus, and at about the time the ovum moves toward the surface of the ovisac, the germinal vesicle moves toward the surface of the ovum, and

at this point, where the ovum presents itself at the surface of the ovary, there is a softening and thinning of the ovisac. This is a preparation for the bursting of the ovisac. Before the rupture of the vesicle however, there is quite a change in its walls, by the addition of a fleshy substance, which is of a slight yellow color, this is the Corpus luteum of the ovary. After the bursting of the vesicle this Corpus luteum remains in the ovary, and the yellow substance growing or closing forms a cicatrix, which after a while diminishes. The size attained by the Corpus luteum

depends upon whether the ovum was impregnated or not, that left by the impregnated ovum being larger than one which was not, also not attaining its size as soon, and of course taking a much longer time for it to diminish. If the ovum becomes impregnated there will be a cessation of the menstrual flow through gestation and lactation, so there is no activity of the ovaries, and those vesicles which have attained some size diminish.

At the time of a fruitful sexual intercourse, the vivifying principle of the seminal fluid, which seminal fluid is

secreted by the male, comes in contact with the ovum. How this principle reaches the ovum, we are not entirely certain. A number of ways have been proposed by which it might be reached; one of which is through the action of the uterus and fallopian tubes, a sort of peristaltic action, and observations show that there is such an action of the tubes, but instead of being towards the ovary, it is from it. So it has been supposed that the spermatozoa - which is the fertilizing principle of the semen - reaches the ovary through the action of the cilia of the fallopian tube,

but these are from instead of
toward the ovary, and would
of course oppose instead of aid-
ing them. Again, it is supposed
that it is through the action
of the spermatozoa themselves that
they reach the ovary. This last
named method seems to be
the one most reasonable, because
the action of them is a con-
siderable, and in those classes
or tribes where the ova is fecun-
dated outside of the body this
is the method admitted. Why
may it not be in this case?

It was once supposed,
that fecundation took place in
the uterus, but it is now known
that it may take place in the

ovary, fallopian tube, or uterus. That it may take place in the ovary, or fallopian tube is easily shown by the fact that there are instances of ovarian and tubal pregnancies, where the progress of the impregnated ovum, has been obstructed in its passage to the uterus, and also by the fact of the spermatozoa having been seen at the ovary in the act of grasping the ovum.

When once the bursting of the graffian vesicle, and the discharge from the ovary of an ovum is learned, we see the propriety of the saying, that a female can more easily become impregnated at about the period

of the menstrual flow than at any other time, and also the propriety of recommending sexual intercourse immediately or soon after the menstrual flow for impotence in females, and experience shows us as well as reason what advantage that time has over all others

At each menstruation, the fimbriated extremities of the fallopian tube grasps the ovary, and as the ovum is set free by the rupture of the vesicle, it is carried through the fallopian tube to the uterus by the peristaltic action of their walls, and by the movement of the cilia which cover their internal surface.

It seems necessary to have the spermatozoa come in contact with the ovum. And it is this act of the coming together of these two principle which constitutes fecundation. What immediate changes take place to set in motion that which will result in the development and growth of a human being, perfect in all its parts, is not very clear By some observations made upon the impregnation of the frog it is shown that the spermatozoa pass through the vitaline membrane and to the interior of the ovum, "And thus the product of the sperm cell may be absorbed into the germ cell, and may

intermingle with its contents, the spermatozoan being nothing else than an embodiment of the fertilizing material developed within the sperm cell, which is endowed with a temporary power of movement in order that it may find its way to the ovum." When the movements of the spermatozoa have ceased, and when they have not arrived at maturity, they are not capable of impregnating.

Having thus briefly given the process by which the female is capable of becoming impregnated, the growth and development of the germ cell, and the method by which the

fecundating principle of male and female are brought into contact, we will leave the subject feeling that it is poorly prepared, but hoping at some future time to be able to do much better.